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(Reaffirmed 2005)

Indian Standard

SPECIFICATION FOR AEROSPACE BOLTS AND NUTS (MJ THREADS)

PART 1 BASIC PROFILE

1. Scope — Specifies the basic profile for MJ threads used for aerospace bolts and nuts. The dimensions of bolts and nuts are covered in Part 2.

1.1 The basic profile of the MJ threads specified in this standard differs from that of the general purpose screw threads (M threads) specified in IS: 4218 (Part 1)-1976 'ISO metric screw threads : Part 1 Basic and design profiles (*first revision*)'. The profile is applicable to all threaded parts of nominal diameters 1·6 mm and larger used in aerospace construction.

2. Definition — The theoretical basic profile corresponds to the basic dimensions (without tolerances) of the major, pitch and minor diameter of the threads. Tolerance deviations are applied to these basic dimensions.

3. Basic Profile Dimensions — The basic profile of MJ threads shall be as shown in Fig. 1 and the dimensions shall be in accordance with the table given under Fig. 1.

EXPLANATORY NOTE

This standard is in complete conformity with ISO 5855 'Aerospace construction — MJ threads'. The basic profile of MJ threads differs from general purpose screw threads (M threads) only in increase in the truncation on the minor diameter of internal thread (0·312 5 H instead of 0·250 0 H) which is due to the adoption of a maximum radius of 0·180 42 P on the root diameter of external thread.

The dimensions of MJ threads are covered in Part 2 of this standard. Reference has also been made to IS : 4218 (Part 1)-1976.

Aircraft and Space Vehicles Sectional Committee, EDC 74; Aircraft Fasteners Subcommittee, EDC 74 : 2 [Ref: Doc: EDC 74 (4208)]

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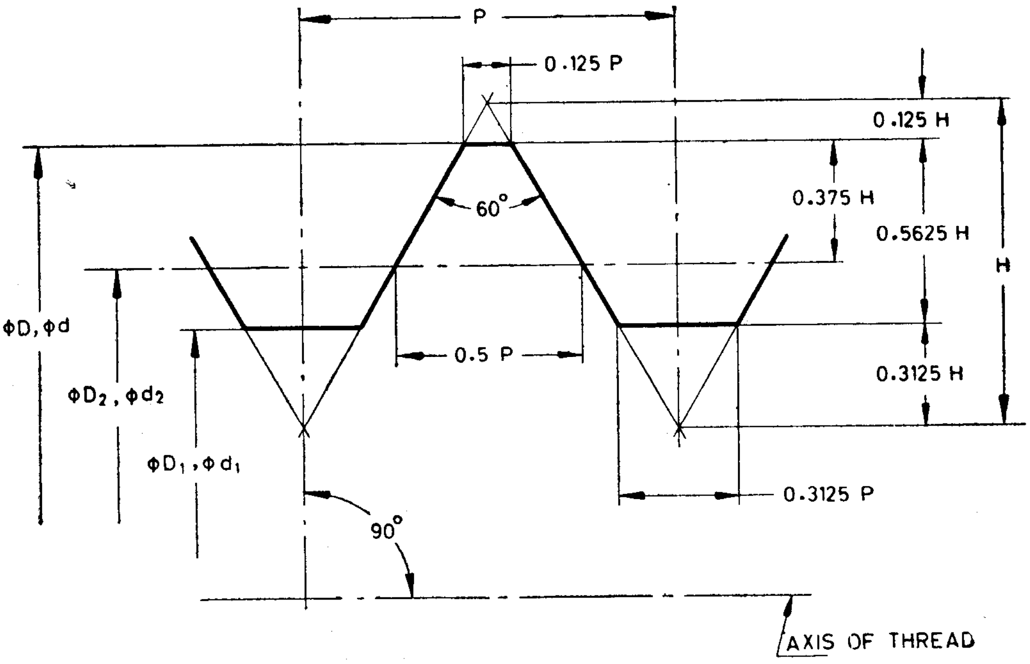

D = basic major diameter of internal thread

D_2 = basic pitch diameter of internal thread

D_1 = basic minor diameter of internal thread

d = basic major diameter of external thread

d_2 = basic pitch diameter of external thread

d_1 = basic minor diameter of external thread

H = height of fundamental triangle

P = pitch

All dimensions in millimetres.

P	0·125 P	0·312 5 P	H = 0·866 025 403 8 P	0·125 H = 0·108 25 P	0·312 5 H = 0·270 63 P	0·375 H = 0·324 76 P	0·562 5 H = 0·487 14 P
0·35	0·043 75	0·109 38	0 303 11	0·037 89	0·094 72	0·113 67	0·170 50
0·4	0·050 00	0·125 00	0·346 41	0·043 30	0·108 25	0·129 90	0·194 86
0·45	0·056 25	0·140 62	0·389 71	0·048 71	0·121 78	0·146 14	0·219 21
0·5	0·062 50	0·156 25	0·433 01	0·054 12	0·135 32	0·162 38	0·243 57
0·6	0·075 00	0·187 50	0·519 62	0·064 95	0·162 38	0·194 86	0·292 28
0·7	0·087 50	0·218 75	0·606 22	0·075 78	0·189 44	0·227 33	0·341 00
0·8	0·100 00	0·250 00	0·692 82	0·086 60	0·216 50	0·259 81	0·389 71
1	0·125 00	0·312 50	0·866 03	0·108 25	0·270 63	0·324 76	0·487 14
1·25	0·156 25	0·390 62	1·082 53	0·135 31	0·338 29	0·405 95	0·608 92
1·5	0·187 50	0·468 75	1·299 04	0·162 38	0·405 94	0·487 14	0·730 71
2	0·250 00	0·625 00	1·732 05	0·216 50	0·541 26	0·649 52	0·974 28
2·5	0·312 50	0·781 25	2·165 06	0·270 62	0·676 58	0·811 90	1·217 85
3	0·375 00	0·937 50	2·598 08	0·324 75	0·811 89	0·974 28	1·461 42

FIG. 1 BASIC PROFILE

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